

**ABSTRACT**

An industrial robot has a structure comprising  
- two or more reciprocally articulated elements capable of angular motion,

- 5       - an electronic unit for controlling a functional device carried by the frame of the robot, and  
      - at least a first optical fiber conductor.

The electronic unit is in signal communication with the functional device through the first optical fiber  
10 conductor for the transmission of control signals, and the first optical fiber conductor is part of a signal cable inserted into a tube; the outer section of the signal cable is smaller than the inner section of the tube, so that the former one can move within the lat-  
15 ter.